NEW OHIO RECORDS OF CORIXIDAE (HEMIPTERA)[1]

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ABSTRACT: One new genus and five new species of corixids have recently been recorded from Ohio as part of a comprehensive survey of adult aquatic insects. The total number of corixid taxa now known from Ohio is 25. All five taxa were collected using black light traps. The newly reported genus, *Corisella*, is known mainly from western North America. *Corisella inscripta* has heretofore only been found west of the Mississippi River. The other four new species records for Ohio represent three genera and include *Palmacorixa buenoi*, *Sigara defecta*, *S. hubbelli*, and *Trichocorixa kanza*. All five new taxa were collected on one or more of the following State Wildlife Areas: Big Island, Killdeer Plains, and Resthaven.

There are almost 80 State Wildlife Areas in Ohio. These are managed by the Ohio Division of Wildlife (the Division) for a variety of hunting, fishing, recreational, and watchable wildlife functions. However, few of these wildlife areas have been surveyed for their aquatic insect fauna. Recently the Division funded the Ohio Biological Survey (the Survey) to conduct a three year study of the state-listed, special category species for Killdeer Plains Wildlife Area. The Survey is also conducting a multi-year comprehensive survey of the adult aquatic insects in Ohio co-funded by the Division, the Partnerships for Wildlife Foundation of the U.S. Fish and Wildlife Service, and the Procter and Gamble Co., Inc. Finally, the Wisconsin Department of Natural Resources, with funding from Partnerships for Wildlife, has contracted with the Survey to conduct a six-state prairie Lepidoptera study. All of these projects generated aquatic insect collections from state wildlife areas, especially Big Island (Marion County), Killdeer Plains (Wyandot County), and Resthaven (Erie County).

The aquatic hemipteran fauna within Ohio, including the family Corixidae, is poorly known. There have been no previous studies pertaining specifically to the aquatic members of this order in Ohio. This void is evident when comprehensive aquatic Hemiptera works, such as Truxal's (1953) revision of the genus *Buenoa* (Hemiptera; Notonectidae), contained no Ohio material. However, efforts such as that of Williams et al. (1996), Chordas (in review), this paper, and the current survey of adult aquatic insects in Ohio, are addressing this deficiency. Until recently, only 20 species of the family Corixidae (Insecta: Hemiptera) were known from Ohio. These included the genera (# species): *Hesperocorixa* (9); *Palmacorixa* (3); *Rhamphocorixa* (1); *Sigara* (5); and, *Trichocorixa* (2). In contrast, there have been 49 species, representing 9 genera, of water boatmen reported from Wisconsin (Hilsenhoff, 1984).

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In this paper we report five new Ohio records of water boatmen, representing one new genus and five new species. This is one of a series of papers about this family and order which will culminate in a comprehensive diagnostic atlas for aquatic Hemiptera in Ohio.

METHODS

Adult corixids were collected from May through October using black light traps. Specimens from Killdeer Plains and Resthaven Wildlife Areas were collected during a survey of prairie moths. Specimens from Big Island Wildlife Area were collected during a study of aquatic insect dispersal to proposed reconstructed wetland areas. Identifications were made using keys and descriptions in Hungerford (1948) and Sailer (1948). Polhemus et al. (1988) was used as the reference for known distributional records. Specimens are preserved in 75% ethanol and deposited in the Ohio Biological Survey's Aquatic Insect Collection.

RESULTS

All species collected on Big Island, Killdeer Plains, and Resthaven Wildlife Areas are presented in Table 1. The new genus and species records for Ohio are indicated by symbols. Additional county records from sites outside of the three wildlife areas are provided in table footnotes.

Table 1. Corixids found on three state wildlife areas.

	Wildlife Areas		
Species	**Big Island**	**Killdeer Plains**	**Resthaven**
†* *Corisella inscripta* (Uhler), 1894[a]	X	X	X
Hesperocorixa atopodonta (Hungerford), 1927		X	
H. obliqua (Hungerford), 1925	X	X	X
* *Palmacorixa buenoi* Abbott, 1913[b]	X		
Ramphocorixa acuminata (Uhler), 1897	X	X	
Sigara alternata (Say), 1825	X	X	X
* *S. defecta* Hungerford, 1948[c]		X	X
S. grossolineata Hungerford, 1948		X	
* *S. hubbelli* (Hungerford), 1928[d]		X	
S. modesta (Abbott), 1916			X
Trichocorixa calva (Say), 1832	X	X	X
* *T. kanza* Sailer, 1948[e]	X	X	X
T. sexcincta (Champion), 1901		X	X

† = Denotes a previously unreported genus for Ohio * = Denotes a new state record for Ohio

[a] Also identified from Madison County

[b] Also identified from Clermont County

[c] Also identified from Athens, Clermont, and Greene counties

[d] Also identifed from Franklin and Jackson counties (kicknet samples)

[e] Also identified from Ashtabula, Clermont, Morgan, Pickaway, Richland, Tuscarawas, Washington, and Williams counties.

DISCUSSION

The five new state records increase the total state list of corixids by 25% to 25 species. This relatively large increase in the faunal list, from a small number of sites, supports the notion that Ohio is undercollected. Given the distributions published by Polhemus et al. (1988), approximately 10 additional taxa, primarily in the genus *Sigara*, could possibly be found in Ohio. Furthermore, Chordas (in review) specifically discusses potentially resident species belonging to the genus *Hesperocorixa* that may ultimately be found in Ohio. The Till Plains physiographic province in western Ohio contains remnants of midwestern prairies which once were common. Killdeer Plains and Big Island Wildlife Areas contain some of these relict areas. Additional collecting in these and other similar areas could reveal other taxa whose distribution is normally considered more typical of the prairie states west of the Mississippi River. Ohio has portions of four other physiographic provinces (Lake Plains, Bluegrass, Glaciated Allegheny Plateau, and Unglaciated Allegheny Plateau) which also could contain taxa typical to these regions in other states but heretofore not collected or identified from Ohio.

Sigara defecta: Ohio lies along the very southern edge of this species' midwestern range (Hungerford, 1948; Polhemus et al., 1988). This species has been previously reported only from two states bordering Ohio (Michigan and Pennsylvania). However, its occurrence in two widely spaced wildlife areas suggests that it is likely to be found in additional Ohio locations.

Sigara hubbelli: This species has previously been reported for all of the states bordering Ohio (Indiana, Kentucky, Pennsylvania, and West Virginia) except Michigan to the north. Based on the distributional data presented by both Hungerford (1948) and Polhemus et al. (1988), Ohio lies well within its known range and it is no surprise that it has been found within the State. A single male specimen was taken from Killdeer Plains Wildlife Area in Wyandot County. Although the single male specimen was taken by black light sampling, several specimens taken by dipnet sampling, from two additional localities within Ohio (Table 1), are in the first author's private collection. This further serves to establish the presence of this species within Ohio.

Trichocorixa kanza: The report of this species in Ohio extends the northern distribution of this primarily southern species. Of the five new species reported from Ohio, this species was taken in the largest numbers and was one of the least anticipated. It has been taken from only one state, Pennsylvania, bordering Ohio. In addition to its historical distribution in the southeastern United States (Polhemus et al., 1988), the northern records of this species include the District of Columbia, Delaware, Maryland, Pennsylvania, and Wisconsin (Hilsenhoff, 1984; Polhemus *et al.*, 1988).

Palmacorixa buenoi: This species has previously been reported for all states bordering Ohio (Indiana, Michigan, Pennsylvania, and West Virginia), except

Kentucky to the south. Its reported distribution extends from Ontario south to Florida and west to Iowa (Polhemus et al., 1988). This vast distribution, and records for bordering states, clearly place Ohio within its range.

Corisella inscripta: Historical records for the genus *Corisella* are primarily from western North America (Hungerford, 1948). Two species of this genus have been recorded from states east of the Mississippi River: *Corisella edulis* (Champion), 1901 and *Corisella tarsalis* (Fieber), 1851 (Hilsenhoff, 1984; Hungerford, 1948; Polhemus et al., 1988). Prior to this paper, the easternmost records of *Corisella inscripta* were from Missouri (Polhemus et al., 1988) and a single male specimen from Arkansas (Cochran and Harp, 1990). *Corisella inscripta* represents not only a new genus for Ohio, but also a considerable eastern geographical range extension.

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